Defining Churn: Cohort Analysis of Old Americans' Employment Trajectories

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Introduction and Motivation

As America's population ages, its workforce ages with it, as many people have extended their working lives or retired early. The standard retirement path is no longer the one way, irreversible exit from the labor force (Cahill et. al 2016). Rather, they may experience a variety of differently timed transitions in and out of the workforce. Many older Americans, urged by public policy, are delaying retirement and extending their working lives, often through acquiring a new job after retirement from a career job, working part time, or reentering the labor force after an initial retirement (Tang et. al 2013). It is apparent that educational attainment affects participation in the labor force, as more educated groups tend to remain in the labor force well into standard retirement years (Wang 2019). Men and women classified as "high intensity caregivers" (providing 15+ hours of informal care a week) are more likely to retire before age 65, according to Jacobs and colleagues. Some workers take on "bridge jobs", filling the gap between full time employment and complete retirement (Cahill et. al 2006). Retirement can no longer be viewed as a dichotomous concept, as workers are not simply in or out of the workforce (Cahill et. al 2006).

These unconventional retirement paths may be a response to employment uncertainties and overall economic precarity, heightened in the last decade as workers are still shaking off the effects of the Great Recession (Munnell & Rutledge 2013, Lippmann 2008). Furthermore, with the rise of automation, contract labor, and globalization (Brynjolfsson & Mcafee 2014), the job market promises less stability than in generations past. Certain sectors, particularly the service sector, have seen an increase in age of the average worker. However, these sectors maintain high job turnover and instability (Choper et al. 2019). The average retirement age for American men decreased sharply in the 20th century but has remained roughly constant since the 1980s (Cahill et. al 2006). However, the average retirement age is on the rise again. With greater life

expectancy and better healthcare outcomes than their predecessors, many Americans have the potential to work well into retirement age but may experience limitations as health disparities emerge among social classes. Reductions in retirement income security, increases in Social Security's normal retirement age, and Great Recession losses have all contributed to an increased retirement age (Helppie McFall 2011). Thus, with divergences in retirement age and life after retirement, it is essential to investigate the employment instability experienced by older Americans.

In this paper, I compare levels of employment change (or churn) for Americans ages 50-74 in the Current Population Survey. That age range is termed the encore years by Life Course Researcher Phyllis Moen. She defines them as years around what used to be conventional retirement, during which space is opening up between familial and work obligations and before the frailties of old age set in. I investigate the degree of short-term "churn" – two or more movements in or out of various work "states". Churn is typically associated with those in their 20s who are just beginning their labor force participation and moving geographically or in terms of industry of interest (Arnett 2004; Hirsch 2016). Identifying the existence and distribution of churn in the encore years can characterize the diversity of contemporary later adult work and retirement.

I compare churn among various generations: the War Generation, the Leading Edge Boomers, and the Trailing Edge Boomers. I also compare some limited Generation X data when analyzing the employment patterns of those ages 50-54. Along with generational analysis, I compare churn levels by ascribed social factors like race and gender as well as achieved social factors like educational level (as a proxy for class). Furthermore, I investigate whether subjective

health status and spousal status result in stratification of churn levels, as there are constraints to switching jobs and retiring.

In my analysis, I discover that employment instability varies greatly when comparing those living alone and single, living with others and single, having an employed spouse, and having a spouse who isn't employed. This contribution to the literature shows that employment transitions during the encore years may be strongly affected by spousal situations, as retirement decisions are often dyadic, and not contained within one person when living with others.

Data

The Current Population Survey (CPS), a monthly survey, is the primary data source for labor force participation in the United States. Its March Annual Social and Economic Supplement (ASEC) gathers detailed information about work, insurance, sources of income, and poverty. Conducted by the Bureau of Labor Statistics, the CPS is the primary source of the monthly unemployment rate and the ASEC is the official source for poverty estimates in the United States. IPUMS, the Integrated Public Use Microdata Series, harmonizes and formats CPS data for easier extraction. I utilize the panel component of the Current Population Survey by linking monthly surveys. The CPS contains a rotating sample in which individuals are interviewed in four consecutive months, left out of the survey for eight months, and then return to the survey for four additional months ("4-8-4" design). I use the IPUMS variable 'CPSIDP' to link observations over time (Moen et al. 2019). By linking eight individual observations over a 16-month period from 1998 through 2018, I analyze short-term sequences of work "states" for those in the age range of 50-74, the transitionary years.

I use detailed employment status and labor force participation information from the CPS to create 6 possible categories for employment status. First, if people are in the labor force, I

differentiate between self-employment, unemployment, full time employment, and part time employment. If people are not in the labor force (NILF), not actively looking for work, then they are either retired or disabled/not in the labor force for other reasons. The last category, not in the labor force for other reasons, is distinctive from being retired, and may refer to someone who is engaging in family care or is in school. These six characteristics are considered the different employment states, and churn is calculated by counting the number of times someone changes their employment state.

Gender is a binary variable distinguishing between men and women. Race differentiates between White, Black, Hispanic, Asian/Pacific Islander, and a combined category for American Indian and Multiracial. In this analysis, I treat age as a categorical variable, dividing observations into five age groups: ages 50-54, 55-59, 60-64, 65-69, and 70-74. For the generational analysis, I differentiated between four generations. The War Generation consists of people born between 1928 and 1946, the Leading Edge Boomers were born between 1946 and 1955, the Trailing Edge Boomers were born between 1956 and 1964, and Generation X (Gen X) were born after 1964. Dividing the Baby Boomers group into two allows for more granularity when examining differences in employment patterns through the generations. As results show, there is a difference in employment patterns for those two subgroups.

Methods

Prior to analysis of churn, I conduct sequence and cluster analysis on the employment trajectories in order to group together similar people. This method is similar to Moen et al. 2019, as clusters are treated as a measurement of employment similarity and an input into further analysis. Thus, I employ the same techniques to ascribe cluster participation to all observations. Clustering allows observers to identify patterns in the data that cannot necessarily be visualized

by the naked eye. Sequences capture the short-term trajectory of the aforementioned "states" (such as full time employment, part time employment, retirement, etc.) over 16 months in the CPS panel. Use of the TraMineR and WeightedCluster packages in R results in identification of social heterogeneity in patterned state sequences and aggregation of identical cases for computational ease. I also use longitudinal weights for the full 8-time point 16 month panel, ensuring individuals who link across all 8 time points are representative of the group of individuals who began the CPS at the same time. To create sequences, I simply assemble the 8 observations into a string of values. For example, someone who was working full time and then retired after 4 months would look like this: F-F-F-F-R-R-R-R, with F referring to full time employment and R referring to retirement.

After assembling the sequences, I calculate the Gower distances between each observation to serve as parts of the dissimilarity matrix used by clustering. Gower distances are computed to compare the similarity/dissimilarity of two categorical pieces of data, which are employment sequences in this case. To assign sequences to similar groups, I use hierarchical agglomerative clustering similar to Moen et al. 2019. This process results in an agglomeration schedule which groups together similar sequences. This is arranged into a grouping tree, which can be "cut" at a specific place for the optimal number of clusters (Studer 2013). Then, I present descriptive relationships of churn with social locations (gender, education, age group, etc.) and cluster membership.

Empirical Results

Similar to my previous findings, we see that changes in employment are more frequent for the younger generations (the Boomers) compared to the silent generation for ages 65-74 (Table 1). Given that the War Generation retired earlier, and generally experienced more traditional paths

of retirement, it would make logical sense that Boomers had slightly higher rates of churn (2+ movements in this age range. However, these changes were relatively insignificant, showing that generational differences in churn are not sizable.

Similarly when analyzing by cluster, we see that certain clusters have more churn than others, and some with very low levels, like the retirement cluster. The 6 clusters: retired, NILF for disability reasons, full time, NILF other and unemployed, part time, and full time, long hours represent the six common job trajectory types. Supplemental information regarding clusters is available upon request. We see high movements in relatively "unstable" clusters, like the NILF other and unemployed cluster and the part time cluster. This is since unemployment and part time work are seen as transitory stages, often between full time work and retirement.

When analyzing the difference in churn by educational attainment (Table 2), we see that college graduates consistently have the highest rates of churn compared to their less educated counterparts. In this case, this movement or churn may be seen as an advantageous change, as research has shown that more educated people of the encore crowd may be taking on bridge jobs, or employment that is outside the standard career trajectory. Some common multi-state movements taken on include switching between self-employment and full time work, as prior research shows that more educated groups tend to enjoy a wider range of non-income benefits like profits from business/farm/property ownership, investment profits, private retirement payouts, and capital gains (Wang 2019). Thus, it is possible for these groups to weave in and out of the labor force and engage in other ventures like owning a business.

Finally, when analyzing differences in churn with respect to spousal employment status (Table 3), we see that those with employed spouses experience the most churn during their time in the CPS. Rates of churn are almost double for men ages 70-74 with employed spouses. Similar

+10% differences are in the older age groups. Why is it that men and women 60+ experience sizably higher rates of employment "state" movement when their spouses are employed? Similar to the analysis of educational attainment, it could be that a working spouse provides them with the financial stability to venture into side-projects and move around in their jobs. Compare this with the fact that people living alone and not partnered experience the least amount of churm. Perhaps their position leads them to stay in their current work state as they lack the stability a working spouse would provide them. In this case, we see that churn is a positive experience, allowing those in the encore years to spread their wings, and move around in the spectrum of careers and paths.

Conclusion

We see that churn, or employment instability, is not a purely disadvantageous trait. In fact, some people who are afforded financial stability can make certain transitions that others who are constrained cannot. Furthermore, we don't see significant changes in churn when comparing generational differences. The truly significant differences in churn concern education and spousal status. Education afford people more opportunities to invest in non-wage income ventures and take advantage of profitable businesses and investments. They may have the financial stability to engage in riskier ventures or find it a relaxing pastime to generate a momentum in employment even after retiring. Similarly, we see that those with employed spouses experiencing the most movements in this short-term period. What is of the utmost importance is to detect differences in involuntary and voluntary churn, as the implications of bouncing between low-wage jobs and unemployment are substantively different than those in retirement who take on ownership of a side business and then retire again. Clearly this is a dynamic, transitional phase of the life course, similar to the emerging adulthood phase in the 20s.

The antecedents and consequences of voluntary and involuntary churn is an important topic for future research.

Appendix

Table 1: Changes in Work "state" by Age Group, Gender, and Generation

	50-54		55-59		60-64		65-69		70-74	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
0 Churn										
War (b. 1928-1945)	45.9	48.67	43.4	46.89	46.99	51.09	58.13	63.65	68.41	73.53
Leading Edge (b. 1946-55)	44.03	48.93	44.83	48.43	47.06	50.98	56.66	62.35	66.31	70.76
Trailing Edge (b. 1956-64)	45.17	49.83	47.38	49.85	48.98	48.84				
Gen X (b. 1964-)	45.87	49.99								
1 Movement										
War (b. 1928-1945)	12.66	12.6	13.56	15.22	14.87	16.76	12.26	12.51	9.18	10.27
Leading Edge (b. 1946-55)	12.45	12.57	12.91	13.96	15.39	16.05	13.97	13.25	10.01	10.58
Trailing Edge (b. 1956-64)	12.68	12.66	12.82	13.95	13.62	15.97				
Gen X (b. 1964-)	12.61	12.3								
2+ Movements										
War (b. 1928-1945)	41.43	38.73	43.04	37.88	38.14	32.14	29.61	23.84	22.41	16.2
Leading Edge (b. 1946-55)	43.51	38.5	42.27	37.62	37.55	32.97	29.37	24.41	23.67	18.66
Trailing Edge (b. 1956-64)	42.15	37.5	39.8	36.2	37.41	35.2				
Gen X (b. 1964-)	41.52	37.71								

Table 2: Changes in Work "state" by Age Group, Gender, and Education

	50-54		55-59		60-64		65-69		70-74	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
0 Churn										
High School degree or Less	46.66	51.7	48.14	49.84	49.85	52.17	60.51	64.72	70.27	74.34
Some College	45.42	51.79	45.7	50.98	47.12	51.99	57.43	63.18	69.78	72.12
College Degree	41.59	44.1	41.03	44.08	43.43	47.69	53.36	59.59	63.65	71.98
1 Movement										
High School degree or Less	46.66	51.7	48.14	49.84	49.85	52.17	60.51	64.72	70.27	74.34
Some College	45.42	51.79	45.7	50.98	47.12	51.99	57.43	63.18	69.78	72.12

College Degree	41.59	44.1	41.03	44.08	43.43	47.69	53.36	59.59	63.65	71.98
2+ Movements	40.84	35.18	38.39	34.8	33.79	29.92	25.98	21.58	19.92	14.68
High School degree or Less	41.86	36.29	41.51	35.7	37.28	32.53	29.44	24.72	21.53	17.98
Some College	45.87	43.34	46.36	42.58	43.49	37.96	35.07	29.35	27.77	19.53
College Degree										

Table 3: Changes in Work "state" by Age Group, Gender, and Spousal Status

	50-54		55-59		60-64		65-69		70-74	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
0 Churn										
Alone	48.57	52.75	48.63	53.09	51.18	53.24	60.39	61.57	70.38	72.21
Not married, living with others	44.34	49.4	45.28	49.33	47.8	48.66	57.63	58.32	67.16	68.38
Spouse employed	43.97	48.95	43.77	46.4	42.17	42.76	45.93	46.68	50.69	52.24
Spouse not employed	44.5	48.32	46.5	49.61	51.85	59.18	64.24	73.51	73.53	81.4
1 Movement										
Alone	13.21	12.58	14.12	13.56	15.74	16.57	13.93	14.02	9.91	11.33
Not married, living with others	12.79	13.14	13.67	14.02	15.7	16.97	14.38	15.26	13.21	13.31
Spouse employed	12.41	12.15	12.64	13.62	15.02	16.84	13.95	15.34	11	14.15
Spouse not employed	12.53	14.13	13.01	16.32	14.84	15.45	11.54	9.94	7.92	7.47
2+ Movements										
Alone	38.21	34.67	37.24	33.36	33.08	30.19	25.68	24.41	19.71	16.46
Not married, living with others	42.87	37.47	41.05	36.65	36.51	34.37	27.99	26.42	19.63	18.31
Spouse employed	43.62	38.89	43.59	39.98	42.81	40.4	40.12	37.98	38.31	33.61
Spouse not employed	42.97	37.54	40.49	34.07	33.31	25.37	24.22	16.55	18.55	11.13

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